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THE GOODYEAR TIRE & RUBBER COMPANY
INTELLECTUAL PROPERTY DEPARTMENT 823
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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,869

Applicant(s)

ZIMMER ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Drews (sidewall)

2) **Claims 1, 2, 4-9, 14-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drews 302 (US 4284302) in view of Fronek et al (US 5848769) and optionally Drews 290 (US 4180290).**

This rejection is applied because Drews 302 teaches providing projections on a tire sidewall and forming the projections so as to be undercut and sizing the projections such that the projections are microscopic.

Drews 302 discloses a tire 11 being formed of rubber and comprising sidewalls. See col. 5 lines 12-17. Hence, Drews 302 teaches a tire having a plurality of radially outer rubber components (a tire having rubber sidewalls). **Drews 302 teaches providing the sidewalls of the tire with undercut projections (undercut wave shaped flutes 9) to minimize friction and drag forces caused by the movement of the tire through air.** See figures 1-6, especially figure 4. As can be seen from figure 4, each projection (flute 9) has an apex, a first side and a second side wherein (a) the first side of the projection (flute 9) is longer than the second side and (b) the second side forms an undercut extending beneath the apex. With respect to the flute being undercut, Drews 302 illustrates the projection (flute) as being **undercut**. See for example figure 4. Also, Drews 302 refers to his previous application 798,417 now US

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4180290. Dews 290 (US 4180290) more clearly indicates that the flutes are **undercut**. See col. 3 lines 28-45 and figure 4 of Dews 290. The first side and second side of the projection (flute 9) is illustrated in figure 4 as defining an acute angle alpha of about 40 degrees (falling within the claimed range of 5 to 60 degrees). With respect to the limitation of more than 75% of the projections, any plane tangent to the first side of 100% of the undercut projections of Dews 302 cut the radially outer surface at an acute angle as claimed. As to height, Dews 302 states:

...the fluted members ... on the order to 1/16 to 1/8 inch [1588 to 3175 micrometers] may provide the desired interaction. The size may be significantly smaller and in some cases may advantageously be microscopic (col. 8 lines 28-32, emphasis added).

Dews 302 does not specifically recite the projections as having a height of 0.2 to 100 micrometers.

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the undercut projections of Dews 302 on a rubber sidewall such that the long first side and short second side define an angle alpha of 5-60 degrees and have a height of 0.2 to 100 micrometers since (1) Dews 302 teaches forming undercut projections on the rubber sidewall of a tire such that the long side and short side define a relatively small acute angle (figure 4 illustrating an angle of about 40 degrees) and have a size which is microscopic; (2) Dews 302 teaches that the undercut projections *minimize friction and drag forces*; and (3) Fronek et al suggests providing projections for *reducing drag* with a height of about 10 to 250 micrometers (col. 6 line 26-49). No unexpected results over the above applied prior art has been shown.

As to the dependent claims: As to claims 2 and 4-9, the claimed characteristics of the projections would have been obvious in view of the shape and arrangement of the projections (flutes 9) shown by Drews 302 / Fronek et al's teachings for example at col. 6 as to suitable characteristics for projections, which like those of Drews 302 are for reducing drag. It is noted that Drews 302's illustrated asymmetrically shaped undercut projections, which are at a spacing of zero micrometers, have curved sides and define acute angles and that the radial alignment of Drews 302's projections (figure 5) cause neighboring projections to be non-parallel and define with each other a very small acute angle. It is noted that Fronek et al suggests a spacing of 10-250 micrometers, varying height and varying included angles. As to claims 14-15, Drews 302 teaches providing the sidewall of a tire with the projections (flutes). As to claim 18, one of ordinary skill in the art would readily understand that Drews 302's rubber tire is vulcanized.

3) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drews 302 in view of Fronek et al and optionally Drews 290 as applied above and further in view of Rethorst (US 3523661).

As to claim 3, it would have been obvious to provide Drews 302's undercut projections for reducing drag with a rounded apex as claimed in view of Rethorst's suggestion to round the apex 22 of an undercut projection for reducing drag.

4) Claims 10-13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drews 302 in view of Fronek et al and optionally Drews 290 as applied above and further in view of Heinen (GB 2363100 or US 6415835) or Ohsawa (US 2001/0032691).

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As to claims 10-13, it would have been obvious to provide Drews 302's tire with grooves and provide Drews 302's undercut projections in the grooves since (1) Drews 302 suggests providing the undercut projections on all exterior surfaces exposed to air (fluid) so as to reduce drag and (2) Heinen or Ohsawa suggest providing a tire with grooves in a tread to improve wet traction and provide projections in the grooves so as to reduce resistance to water flow.

As to claims 16 and 18, it would have been obvious to one of ordinary skill in the art to provide the claimed mold for the tire suggested by Drews 302 and Fronek et al in view of Ohsawa's teaching to use a vulcanizing mold to form a tire having projections in the micrometer range. See for example paragraph 209. One of ordinary skill in the art would readily understand that the mold has surfaces corresponding to the projections so that an actual tire having such projections can be vulcanized.

5) Claims 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drews 302 in view of Fronek et al and optionally Drews 290 as applied above and further in view of Kemp et al (US 6253815).

As to claims 16 and 18, it would have been obvious to one of ordinary skill in the art to provide the claimed mold for the tire suggested by Drews 302 and Fronek et al in view of Kemp et al's teaching to provide a mold having surfaces for curing (vulcanizing) a tire having projections wherein the shape of the surfaces correspond to the shape of the projections. See col. 10 lines 24-36 of Kemp et al.

As to claim 15, the claimed limitation regarding "lettering" would have been obvious since (1) Drews teaches using microscopic projections on the sidewall of a tire

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and (2) Kemp, which teaches projections having a size such as 250 micrometers to reflect light and improve visibility of indicia, suggests forming letters on the sidewall of a tire.

6) Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dews 302 in view of Fronek et al and optionally Dews 290 as applied above and further in view of Japan 219 (JP 6-40219) or Baker (US 5603796).

As to claim 17, it would have been obvious to make a rubber tire using a tape having projections and an adhering step as claimed in view of (1) Dews 302's teaching to provide the sidewall of a tire formed of rubber with projections, (2) Dews 302's teaching that projections may be provided on a surface by adhering a tape having the projections to the surface (col. 5 lines 40-52) and (3) (a) Japan 219's teaching that a tape (annular sticker) may be adhered to the sidewall of a pneumatic tire (vulcanized rubber tire) or (b) Baker's teaching to bond a tape (applique with recesses) to a vulcanized tire.

tread

7) Claims 1-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsawa (US 2001/0032691) in view of at least one of Lobert et al (US 4750693), Dews 302 and Dews 290 and optionally in view of Japan '135 (JP 11-59135).

This rejection is applied since Ohsawa teaches providing projections in a groove of a tire tread and providing the projections with a height of 10-500 micrometers such as

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50 micrometers (falling within the claimed range of 0.2-100 micrometers) and using the projections to reduce resistance between the groove surfaces and water.

Ohsawa discloses a tire having grooves wherein projections are provided on the sidewalls of the groove. The projections have a depth (height) of 0.01-0.5 mm (10 to 500 micrometers) such as 0.05 mm (50 micrometers). The projections reduce resistance to the flow of water in the grooves to improve drainage efficiency of the grooves. Ohsawa teaches "... a number of minute vortexes can be generated along the groove walls to reduce the frictional resistance between the water and the groove walls thereby to improve the wet performances at an actual running time" (paragraph 14). The pitch P of the projections is less than or equal to two times the depth D . See paragraph 27. Ohsawa's teaching to use $P \leq 2D$ strongly suggests using an angle within the claimed range of 5 to 60 degrees. For example: In the tire of Example 1 in which $P = D$, an angle I of 53.2 degrees is defined. Another example: In the tire g of Table 1 in which $P = 0.75 D$, an angle of 41.1 degrees is defined. With respect to the determination of Ohsawa's acute angle, see pages 3 and 4 of office action dated 5-18-04. At paragraph 23, Ohsawa teaches that asymmetrically shaped grooves, which define asymmetrically shaped projections, may be used. At paragraph 164, Ohsawa teaches that other shapes may be used for the smaller grooves defining the projections "if they have the effect to reduce the resistance to the water flow". Ohsawa does not recite using undercut projections.

As to claim 1 (tire), it would have been obvious to one of ordinary skill in the art to configure Ohsawa's projections such that

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- the projection is undercut,
- the projection has two sides of unequal length and is thereby asymmetrical, and
- defines define an angle α of 5-60 degrees (a relatively small acute angle)

since (1) Ohsawa, directed to the problem of reducing resistance of water flow, teaches forming projections with a desired shape (e.g. an asymmetrical shape) such that the pitch is less than two times the depth and so that resistance to flow of water is reduced, (2) at least one of Lobert et al, Drefs 302 and Drefs 290 suggest forming projections for reducing resistance to fluid flow such that the projections are undercut and optionally (3) Japan '135 shows one of ordinary skill in the art that undercut projections may be formed in grooves of a tire tread (see figure 3). Lobert et al, directed to reducing drag between a moving body and a flowing medium such as water, teaches using an undercut asymmetrical shape (figure 4b) for projections for reducing resistance to a flowing medium. Lobert et al suggests using asymmetrically shaped undercut projections as an alternative to asymmetrical projections, which are not undercut. Lobert et al is reasonably pertinent to the problem faced by Ohsawa. Both Ohsawa and Lobert et al are directed to the same problem of reducing friction between fluid and a surface. Both Ohsawa and Lobert et al use the same solution (small asymmetrically shaped projections having a height in the micrometer range) to reduce friction between water and a surface. Drefs 302 and Drefs 290, discussed above, are reasonably pertinent to the problem faced by Ohsawa. Ohsawa, Drefs 302 and Drefs 290 are directed to the same problem of reducing friction between fluid and a surface. Both

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Ohsawa and Drews 302 use the same solution (small asymmetrically shaped projections having a height in the micrometer range) to reduce friction between fluid and a surface. Moreover, Ohsawa, Drews 302 and Drews 290 are in the same field of endeavor - tires. The optionally applied Japan 135 is evidence that undercut projections may be used in a tread groove. No unexpected results over the applied prior art has been shown.

As to claim 16 (mold), Ohsawa teaches using a vulcanizing mold. See for example paragraph 209. One of ordinary skill in the art would readily understand that the mold has surfaces corresponding to the projections so that an actual tire having such projections can be vulcanized.

As to the dependent claims: As to claim 2, the claimed angle of 15-55 degrees would have been obvious in view of Ohsawa's teaching to form projections with a pitch less than two times the depth to reduce resistance to flow and the suggestion from at least one of Lobert et al, Drews 302 and Drews 290 to undercut asymmetrically shaped projections to reduce resistance to fluid flow. As to claims 3 and 4, the limitation of curved line apexes / tangent at height not exceeding 75% of the total height would have been obvious since Ohsawa suggests that the peaks of the projections may be curved (see e.g. figure 9). As to claim 5, the claimed non-zero angle beta being between -15 degrees and +15 degrees would have been obvious in view of Ohsawa's suggestion to use grooves to define projections and Ohsawa's teaching that the grooves may be inclined and non-parallel (figure 22). As to claim 6 (distance d being 0-100 micrometers), note the spacing of the projections disclosed by Ohsawa (the spacing in

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figure 3 for example is zero micrometers). As to claim 7, the limitation of the sides being slightly curved would have been obvious since Ohsawa suggests that the sides of the projections may be curved (see e.g. figure 9). As to claim 8, the claimed varying angle α would have been obvious in view of Ohsawa's suggestion to vary angle θ_1 (figure 15) so that the tire can easily be removed from the mold. As to claim 9, the claimed varying height would have been obvious since Ohsawa shows varying height (figure 15) so that the tire can easily be removed from the mold. As to claims 10-13, Ohsawa teaches providing the projections in a groove of a tread (e.g. on the sidewalls and bottom of a groove). As to claim 14, Ohsawa's tire includes rubber sidewalls. As to claim 15, the description of "lettering" fails to require structure different from that disclosed in Ohsawa. As to claim 18 (vulcanizing tire), Ohsawa as noted above teaches using a vulcanizing mold to form the tire.

Remarks

8) Applicant's arguments filed 10-11-05 have been fully considered but they are not persuasive.

sidewall / claim 1

Drews 302, directed to providing wave shaped flutes on a tire to reduce friction or drag, states:

As noted previously, the various surface elements have been illustrated of a size to clearly show the preferred shapes and relationship of parts. The elements as shown may be enlarged when compared to practical implementation. For example, the fluted members and projections on the order of 1/16 to 1/8 inch [1587.5 micrometers to 3175 micrometers] may provide the desired interaction. **The size may even be smaller and in some cases may advantageously be microscopic.** However, size is not considered critical, but **will normally be as**

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small as practical to produce the desired interaction. (col.8 lines 28-38, emphasis added)

With respect to the size of Drews 302's fluted members (undercut projections best seen in figure 4), applicant argues: "For the examiner to extrapolate the teachings of Drews in which the preferred flute size is on the order of 1/16 to 1/8 inches to equate with the .2 to 100 micrometers recited in the claims is not properly founded and based solely on a re-constructing of Drews based solely on hindsight." (page 2 of response filed 10-11-05, emphasis added). Applicant also argues that "There is no teaching in Drews that would instruct one of skill in the art to reduce flutes of about 1/16 to 1/8 inches down to .2 to 100 micrometers." (page 2 of response filed 10-11-05, emphasis added). These arguments are inconsistent with Drews 302's express teaching at col. 8 lines 28-38 to reduce the size of the fluted members down to "microscopic."

With respect to Drews 302 and Fronek et al, applicant states: "The general language of Drews that the flutes may be smaller or 'microscopic' must be taken in context of the purpose of the Drews configuration, that is, to streamline the external surfaces ... for the purposes of reducing drag." (page 5 of response filed 10-11-05, emphasis added). Applicant also acknowledges "...Fronek is intended to be used for ... reducing drag in an article" (page 6 of response filed 10-11-05), emphasis added). As to the size of projections for reducing drag, Drews 302 expressly suggests "microscopic" and Fronek et al specifically suggests using a height of 10 to 250 microns (10 to 250 microns). When viewing the applied prior art as a whole, there is ample suggestion to use a height in the range 0.2 to 100 microns (0.2 to 100 micrometers) for Drew 302's undercut fluted members for reducing drag. With respect to using a size,

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specifically a height in the range of 0.2 to 100 microns (0.2 to 100 micrometers) for Drews 302's undercut projection for reducing friction / drag, MPEP 2144 states: "The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant." (MPEP 2144, page 2100-140, Rev. 3, August 2005).

Applicant argues that Drews 302 would not enable one skilled in the art to practice the invention (page 6 of response filed 10-11-05). This argument is not persuasive since applicant has failed to present any convincing reasons and/or evidence showing that US Patent 4,180,290 to Drews is non-enabling. As a related matter, applicant has failed to present any convincing argument and/or evidence that US Patent 5,848,769 to Fronek et al is non-enabling.

Applicant argues that the terms "size", "efficiency", "sufficient efficiency" and "microscopic" are unclear and ambiguous. In light of Drews 302's disclosure including the figures and the description at col. 8 lines 28-38, there is no ambiguity in the actual language used by Drew 302 and one of ordinary skill in the art would readily understand the terms "size" and "microscopic".

Applicant argues "The Examiner is incorrect in concluding that the present invention does not achieve unexpected results in view of the applied prior art for neither reference individually or in combination can accomplish the stated objectives of the invention" (page 7 of response filed 10-11-05). This argument is not factually supported by objective evidence and is therefore not persuasive. See MPEP 716.01(c), which

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states: "Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See, for example, In re De Blaue, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) ('It is well settled that unexpected results must be established by factual evidence. ...'). '[A]ppellants have not presented any experimental data showing that prior heat-shrinkable articles split. due to the absence of tests comparing appellant's heat shrinkable articles with those of the closest prior art, we conclude that appellant's assertions of unexpected results constitute mere argument.')" (emphasis added).

Applicant argues: "The present invention discloses a surface configuration that provides dirt-repellence and water-repellence and is self-cleaning. In addition, the projections and their orientation provide a visual differentiation in the surface." (page 6 of response filed 10-11-05). This argument is not factually supported by objective evidence and is therefore not persuasive. See MPEP 716.01(c).

Applicant argues "Drews flutes at 1/16 to 1/8 inch would not be functional to meet the dual objectives of providing dirt resistance and water evacuation. The sizing of Drews channels would create dirt traps for collecting debris." This argument is not persuasive because attorney arguments cannot take the place of evidence. See MPEP 716.01(c).

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Applicant argues "The non-undercut Fronek projections would not effectively meet the objectives of the invention as to dirt and water repellence." (page 7 of response filed 10-11-05). This argument is not persuasive because attorney arguments cannot take the place of evidence. See MPEP 716.01(c).

remaining claims

As to claim 3, applicant argues that "The Examiner has not pointed to no teaching in any of the reference that would encourage one skilled in the art to look to projections applied to the problem of drag reduction for instruction in tire construction where dirt and water repellence, and visual distinction, are competing design objectives." (page 7 of response filed 10-11-05). This argument is not persuasive because (1) applicant has failed to present objective evidence showing meeting objectives as to dirt repellence, water repellence and visual distinction, (2) applicant has failed to cite authority supporting this argument and (3) "The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant." (MPEP 2144).

As to claim 3, applicant's argument that Drews, Fronek and Rethorst are disparate references is not persuasive since each of these references are directed to reducing drag.

As to claim 4, applicant argues that there is not an instruction in Drews 302 or Fronek for a plane cutting the radially outer surface at an angle tangent to the to the first

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side of the projection at a height not exceeding 75 degrees. This argument is not understood since it is *impossible* for any plane tangent to the first side of the flute shaped member at a height not exceeding 75 degrees to not cut the radially outer surface at an acute angle.

As to claim 5, Applicant argues that Drews 302's neighboring projections are oriented such that their longitudinal axis are parallel. This argument is not persuasive since it is *impossible* for radially oriented flutes to be oriented parallel. Is applicant confusing parallel circumferentially extending walls 22 with the non-parallel radially directed flutes 31?

As to claim 6, Drew 302's projections are at a spacing of zero micrometers falling within the claimed range of 0 to 100 micrometers.

With respect to claims 10-13, 16 and 18, applicant argues: "The enhanced water and dispersement achieved by the present invention is not achieved by Ohsawa..." (page 8 of response filed 10-11-05). This argument is not persuasive because attorney arguments cannot take the place of evidence. See MPEP 716.01(c).

With respect to claims 10-13, 16 and 18, applicant argues that Ohsawa and Heinen fail to suggest an undercut projection having an angle of inclination falling within the claimed invention specifications. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With respect to claims 16 and 18, applicant's arguments regarding the mold are not persuasive since Ohsawa suggests forming projections on a tire surface using a mold wherein the projections have a height of 10-500 micrometers such as 50 micrometers and first and second sides defining an acute angle.

With respect to claims 15, 16 and 18, applicant argues that a capability of eliminating fluid and dirt from the surface is not found in Kemp. This argument is not persuasive because attorney arguments cannot take the place of evidence. See MPEP 716.01(c).

With respect to claims 15, 16 and 18, applicant's argument that Kemp discloses a 90 degree angle and a height falling outside of the height of the projections is not persuasive because (1) Kemp suggests forming a tire with projections using a mold and (2) one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With respect to claim 17, applicant argues that Japan 219 or Baker do not suggest a tape with undercut projections. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

tread

Applicant's arguments regarding the Ohsawa rejection are not persuasive for the following reasons.

First: The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See MPEP 2144.

Second: Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results. See MPEP 716.01(c).

Third: Burden is on applicant to establish results are unexpected and significant. See MPEP 716.02(b).

Fourth: one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Fifth: Ohsawa teaches a projection on a tire for reducing resistance to flow (improved water repellence) defining an acute angle of 53.2 degrees (falling within the claimed range of 5-60 degrees) and a height of 50 micrometers (falling within the claimed range of 0.2 to 100 micrometers).

Sixth: At least one of Lobert et al, Drefs 302 and Drefs 290 suggest providing an asymmetrically shaped projection with an undercut and using such a projection to obtain reduced resistance to flow as desired by Ohsawa.

As to claims 5-14, Applicant argues that Ohsawa's projections are not undercut. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

As to claims 16 and 18, applicant's argument that it would be sheer speculation and hindsight to use a mold to create projections is inconsistent with Ohsawa's teaching to use a mold to form a tire having projections (paragraph 209).

references of interest

Webster's II New Riverside University Dictionary is cited of interest for defining "microscopic" as being "Too small to be seen by the unaided eye but large enough to be studied under a microscope." Drinkwater (US 2005/027604) is cited of interest for stating: "...a size not visible to the unaided eye typically 20 to 100 micron, less than 250 micron ..." (paragraph 84). Epperson (US 4965421) is cited of interest for stating "...it is found for practical purposes brown alumina particles in the sub 100 micron range are impossible to see by an unaided eye in a TSO assembly" (col. 6 lines 25-28).

who has the burden to show unexpected results

Applicant states: "The Examiner mis-characterizes the achieve of unexpected results of the invention as attorney argument. **The examiner has not shown how a**

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result that includes simultaneous achievement of reduced hydroplaning, optical and color differentiation, and a reduced dirt collection channels **would not be unexpected** when none of the cited art achieves that result." (page 13 of response filed 12-27-05, emphasis added). With respect to unexpected results, applicant has the burden to show unexpected results and applicant has failed to meet that burden. See MPEP 716.01(c) and MPEP 716.02(b).

9) No claim is allowed.

10) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

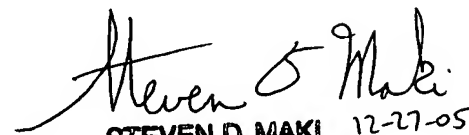
11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
December 27, 2005


STEVEN D. MAKI 12-27-05
PRIMARY EXAMINER